## ABSTRACT OF THE DISCLOSURE

A method for determining a filter that is very selective and having linear phase is described.  The method starts with choosing a pole constellation in the complex frequency plane in a unique manner so that a desired passband phase of the filter is linear while preserving the desired magnitude. The method seeks to design filters that have ideal responses in both gain and phase or gain and time. This process is done methodically by finding locations of poles that yield sensible compromises between the extremes.  It also makes full use of well-known traditional characteristics of the filters at the extremes.